312 Amendment
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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for calibrating a driver in a dual actuator disk drive, comprising:

determining a measured capacitance associated with at least one piezoelectric element prior to positioning the piezoelectric element over a disk surface including the steps of:

driving said at least one piezoelectric element to a predetermined starting voltage;

supplying a predetermined current to said at least one piezoelectric element for a predetermined time period;

measuring a second voltage associated with said at least one piezoelectric element after said supplying step; and

calculating said measured capacitance based on said measuring step, wherein said calculating step is performed based on the following equation:

~~$C = I * (T/(V_{m2}-V_{m1})$~~

$C = I * T/(V_{m2}-V_{m1})$

where C is the measured capacitance, I is the current supplied to said at least one piezoelectric element during said ~~suppying~~ supplying step, T is the predetermined time period[[;]], V_{m2} is the second voltage, and V_{m1} is the starting voltage; and

adjusting said driver based on said determining step.

Claim 2 (currently amended): A method, as claimed in claim 1, further comprising:

secondly determining a second measured capacitance associated with said at least one piezoelectric element after a predetermined time period following said adjusting step; and

secondly adjusting said driver based on said ~~determining~~ step <u>of secondly determining</u>.

Claim 3 (cancelled).

Claim 4 (cancelled).

Claim 5 (currently amended): A method for calibrating a driver in a dual actuator disk drive, comprising:

determining a measured capacitance associated with at least one piezoelectric element prior to positioning the piezoelectric element over a disk surface including the steps of:

driving said at least one piezoelectric element [[is]] <u>to</u> a predetermined starting voltage;

supplying a predetermined current to said actuator element;

starting a timer;

monitoring a voltage associated with said at least one piezoelectric element;

stopping said timer to get an elapsed time when said voltage reaches a predetermined voltage level in said monitoring step; and

calculating said measured capacitance based on said elapsed time, wherein said calculating step is performed based on the following equation:

~~$C = I * (T/(V_{m2}-V_{m1})$~~

$C = I * T/(V_{m2}-V_{m1})$

where C is the measured capacitance, I is the current supplied to said at least one piezoelectric element during said supply step, T is the elapsed time, V_{m2} is the predetermined voltage level, and V_{m1} is the starting voltage; and

adjusting said driver based on said determining step.

Claim 6 (cancelled).

Claim 7 (currently amended): A method, as claimed in claim 1, wherein said adjusting step includes:

determining a difference between said measured capacitance and an expected capacitance; and

adjusting a gain associated with said driver based on said ~~determining~~ step of determining a difference.

Claim 8 (original): A method, as claimed in claim 1, wherein said driver is a voltage control driver.

Claim 9 (original): A method, as claimed in claim 1, wherein said driver is a charge control driver.

Claims 10-18 (cancelled).

Claim 19 (currently amended): A method for determining a number of piezoelectric elements present in a dual actuator hard disk drive, comprising:

determining a total capacitance associated with at least one piezoelectric element including the steps of:

driving said at least one piezoelectric element [[is]] to a predetermined starting voltage;

supplying a predetermined current to said at least one piezoelectric element for a predetermined time period;

measuring a second voltage associated with said at least one piezoelectric element after said supplying step; and

calculating said total capacitance based on said measuring step, wherein said calculating step is performed based on the following equation:

~~$C = I * (T/(V_{m2}-V_{m1})$~~

$C = I * T/(V_{m2}-V_{m1})$

where C is the total capacitance, I is the current supplied to said at least one piezoelectric element during said supplying step, T is the predetermined time period[[;]], V_{m2} is the second voltage, and V_{m1} is the starting voltage;

ascertaining a number of piezoelectric elements present in said disk drive based on said determining step.

Claim 20 (cancelled).

Claim 21 (cancelled).

Claim 22 (currently amended): A method for determining a number of piezoelectric elements present in a dual actuator hard disk drive, comprising:

determining a total capacitance associated with at least one piezoelectric element;

ascertaining a number of piezoelectric elements present in said disk drive based on said determining step, wherein said ascertaining step comprises:

dividing said total capacitance by an expected capacitance and rounding to the closest natural number.

Claim 23 (previously presented): A method, as claimed in claim 22, wherein said expected capacitance is approximately a capacitance associated with a single piezoelectric element.

Claim 24 (new): A method, as claimed in claim 5, wherein said adjusting step includes:

determining a difference between said measured capacitance and an expected capacitance; and

adjusting a gain associated with said driver based on said step of determining a difference.

Claim 25 (new): A method, as claimed in claim 5, wherein said driver is a voltage control driver.

Claim 26 (new): A method, as claimed in claim 5, wherein said driver is a charge control driver.

Claim 27 (new): A method, as claimed in claim 19, wherein said ascertaining step comprises:

dividing said total capacitance by an expected capacitance and rounding to the closest natural number.

Claim 28 (new): A method, as claimed in claim 27, wherein said expected capacitance is approximately a capacitance associated with a single piezoelectric element.